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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/874,992	06/12/1997	JONATHAN S. STAMLER	DUK97-02M	3513

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EXAMINER	
CELSA, BENNETT M	

ART UNIT	PAPER NUMBER
1639	36

DATE MAILED: 10/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

file copy

Office Action Summary	Application No. 08/874,992	Applicant(s) Stamler et al.
	Examiner Bennett Celsa	Art Unit 1639

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *three* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *6/1/02; 4/11/03; 7/31/03*.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *15-17 and 59-71* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *15-17 and 59-71* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). *24 & 32*
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Response to Amendment

Applicant's amendment, with terminal disclaimer, dated 6/1/02 in paper no. 25 is acknowledged.

Applicant's responses dated 4/11/03 and 7/31/03 in paper no. 32 and 35, respectfully, is acknowledged.

Status of the Claims

Claims 15-17 and 59-71 are currently pending.

Withdrawn Objection(s) and/or Rejection (s)

Applicant's terminal disclaimers has overcome the rejections of

a. claims 15, 16, 60, 61, 64, 66 and , 67 as being provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 77 of copending Application No. 08/796,164.

b. claims 15, 16, 60, 61, 64, 66 and , 67 as being provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 21 and 26-28 of copending Application No. 08/616,371.

New Objection (s) and/or Rejection (s)

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.
>
> (f) he did not himself invent the subject matter sought to be patented.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 15, 17, 59-60 and 62-71 are rejected under 35 U.S.C. 102(e,f) as being anticipated, or alternatively under 35 USC 103 as being obvious over Stamler et al. US Pat. No. 6,471,978 (10/02: filed 6/2/95 or earlier).

Stamler et al. teach that nitric oxide (NO adducts) (e.g upon administration) and S-nitrosothiols (e.g. upon administration or formed in vivo upon NO adduct administration) cause vasodilation and platelet inhibition (e.g. see col 1) which prevents thrombus formation (e.g. see col. 2). Accordingly, the reference teaches that an administered "nitric oxide adduct" (e.g. a compound or a device comprising a compound: see col. 4) treats damaged vasculature which are susceptible to thrombus formation (e.g see col. 3). The selection of "nitric oxide adducts" of hemoglobin (e.g. (S) nitrosated/nitrated/polynitrosated) is anticipated or in the alternative obvious since hemoglobin is a preferred (e.g. claimed embodiment) "nitric oxide adduct" ie. includes nitrosohemeproteins, with hemoglobin being preferred. Eg. See patent claims 1, 18-24; 30, 36-42,48, and 54-60); *In re Schaumann*, 572 F.2d 312. 197 USPQ 5 (CCPA 1978) Accordingly, the reference teaches treating (humans/animals) disorders resulting from platelet activation or adherence within the scope of the presently claimed invention (e.g. damaged vasculature) which inherently preventing thrombus formation and platelet activation. E.g. The prior art procedure inherently must prevent thrombus formation and platelet activation because the same protein is applied in the same way in the same amount. *In re Best*, 195 USPQ 430,433 (CCPA 1977); *Ex parte Novitski*, 26 USPQ2d 1389 (B.P.A.I, 1993).. Alternatively, the reference teaching of the use of NO adducts and S-nitrosothiols to inhibit platelet inhibit and prevent

thrombus formation, where the selection of (S) nitrated/nitrosylated is anticipated or alternatively obvious (e.g. see patent claims), represents an explicit reference teaching anticipation or alternatively rendering obvious the use of these hemoglobins to prevent thrombus formation and platelet activation

4. Claims 15-17 and 59-71 are rejected under 35 U.S.C. 102(e,f) as being anticipated, or alternatively under 35 USC 103 as being obvious over Stamler et al. US Pat. No. 6,583,113 (06/03: filed 3/24/95 or earlier).

Stamler et al. teach that nitric oxide (NO adducts) (e.g upon administration) and S-nitrosothiols (e.g. upon administration or formed in vivo upon NO adduct administration) cause vasodilation and platelet inhibition (e.g. see col 1; examples, particularly Ex. 7) which prevents thrombus formation (e.g. see columns. 2 and 4) for treating/preventing cardiovascular disorders (e.g. "A disorder resulting from platelet activation or adherence"). including cardiac failure and myocardial infarction (e.g. see col. 4, claims 1-4). The selection of hemoglobin (e.g. (S) nitrosated/nitrated/polynitrosated) is anticipated or in the alternative obvious since hemoglobin is preferred (e.g. examples; claimed embodiment) Eg. See patent claims 1-4 and *In re Schaumann*, 572 F.2d 312. 197 USPQ 5 (CCPA 1978) . Accordingly, the reference teaches treating (humans/animals) disorders resulting from platelet activation or adherence within the scope of the presently claimed invention (e.g. cardiovascular disorders or clotting disorders) which inherently prevent thrombus formation and platelet activation. E.g. The prior art procedure

inherently must prevent thrombus formation and platelet activation because the same protein is applied in the same way in the same amount. *In re Best*, 195 USPQ 430,433 (CCPA 1977); *Ex parte Novitski*, 26 USPQ2d 1389 (B.P.A.I, 1993). Alternatively, the reference teaching of the use of NO adducts and S-nitrosothiols to inhibit platelet inhibit and prevent thrombus formation, where the selection of (S) nitrated/nitrosylated hemoglobin is anticipated or alternatively obvious (e.g. see patent claims), represents an explicit reference teaching anticipation or alternatively rendering obvious the use of these hemoglobins to prevent thrombus formation and platelet activation

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 15, 17, 59-60 and 62-71 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-65 (especially claims 1, 18-24; 30, 36-42,48, and 54-60) of U.S. Patent No. 6,471,978 alone or in combination with its disclosure (e.g. col. 1-4) for purposes of demonstrating inherency. Although the conflicting claims are not identical, they are not patentably distinct from each other because :

Stamler et al. teach that nitric oxide (NO adducts) (e.g upon administration) and S-nitrosothiols (e.g. upon administration or formed in vivo upon NO adduct administration) cause vasodilation and platelet inhibition (e.g. see col 1) which prevents thrombus formation (e.g. see col. 2). Accordingly, the reference teaches that an administered "nitric oxide adduct" (e.g. a compound or a device comprising a compound: see col. 4) treats damaged vasculature which are susceptible to thrombus formation (e.g see col. 3). The selection of "nitric oxide adducts" of hemoglobin (e.g. (S) nitrosated/nitrated/polynitrosated) is anticipated or in the alternative obvious since hemoglobin is a preferred (e.g. claimed embodiment) "nitric oxide adduct" ie. includes nitrosohemeproteins, with hemoglobin being preferred. Eg. See patent claims 1, 18-24; 30, 36-42,48, and 54-60). See *In re Schaumann*, 572 F.2d 312. 197 USPQ 5 (CCPA 1978) Accordingly, the reference teaches treating (humans/animals) disorders resulting from platelet activation or adherence within the scope of the presently claimed invention (e.g. damaged

vasculature) which inherently preventing thrombus formation and platelet activation. E.g. The prior art procedure inherently must prevent thrombus formation and platelet activation because the same protein is applied in the same way in the same amount. *In re Best*, 195 USPQ 430,433 (CCPA 1977); *Ex parte Novitski*, 26 USPQ2d 1389 (B.P.A.I, 1993).. Alternatively, the reference teaching of the use of NO adducts and S-nitrosothiols to inhibit platelet inhibit and prevent thrombus formation, where the selection of (S) nitrated/nitrosylated is anticipated or alternatively obvious (e.g. see patent claims), represents an explicit reference teaching anticipation or alternatively rendering obvious the use of these hemoglobins to prevent thrombus formation and platelet activation

7. Claims 15-17 and 59-71 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 of U.S. Patent No. 6,583,113 alone or in combination with its disclosure (e.g. col. 1-4; examples) for purposes of interpreting claim scope and/or demonstrating inherency. Although the conflicting claims are not identical, they are not patentably distinct from each other because :

Stamler et al. teach that nitric oxide (NO adducts) (e.g upon administration) and S-nitrosothiols (e.g. upon administration or formed in vivo upon NO adduct administration) cause vasodilation and platelet inhibition (e.g. see col 1; examples, particularly Ex. 7) which prevents thrombus formation (e.g. see columns. 2 and 4) for treating/preventing cardiovascular disorders (e.g. "A disorder resulting from platelet activation or adherence"). including cardiac failure and

myocardial infarction (e.g. see col. 4, claims 1-4). The selection of hemoglobin (e.g. (S) nitrosated/nitrated/polynitrosated) is anticipated or in the alternative obvious since hemoglobin is preferred (e.g. examples; claimed embodiment) Eg. See patent claims 1-4 and *In re Schaumann*, 572 F.2d 312. 197 USPQ 5 (CCPA 1978) . Accordingly, the reference teaches treating (humans/animals) disorders resulting from platelet activation or adherence within the scope of the presently claimed invention (e.g. cardiovascular disorders or clotting disorders) which inherently prevent thrombus formation and platelet activation. E.g. The prior art procedure inherently must prevent thrombus formation and platelet activation because the same protein is applied in the same way in the same amount. *In re Best*, 195 USPQ 430,433 (CCPA 1977); *Ex parte Novitski*, 26 USPQ2d 1389 (B.P.A.I, 1993). Alternatively, the reference teaching of the use of NO adducts and S-nitrosothiols to inhibit platelet inhibit and prevent thrombus formation, where the selection of (S) nitrated/nitrosylated hemoglobin is anticipated or alternatively obvious (e.g. see patent claims), represents an explicit reference teaching anticipation or alternatively rendering obvious the use of these hemoglobins to prevent thrombus formation and platelet activation

8. Claims 15-17 and 59-71 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 (especially claims 4-9 and 17) of copending Application No. 10/216,865 (PG Pub. US 2003/0007967) to Stamler et al. alone or in combination with its disclosure (e.g. col. 1-4; examples) for purposes of interpreting claim scope and/or demonstrating inherency.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed invention teaches a (poly) nitrosyl/nitrosated hemoglobin (e.g. S-nitroso-hemoglobin) for inhibiting platelet function and treating/preventing a cardiovascular disorder (e.g. myocardial infarction) by administering/delivering the hemoglobin to an animal/human; with the prevention of thrombus formation being inherent (e.g. example 6).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

General information regarding further correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Celsa whose telephone number is (703) 305-7556.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew J. Wang (art unit 1639), can be reached at (703)306-3217.

Any inquiry of a general nature, or relating to the status of this application, should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Bennett Celsa (art unit 1639)
October 17, 2003

BENNETT CELSA
PRIMARY EXAMINER